

Abstract of the Disclosure

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The object of the invention is to create an improved  
interferometer <sup>is described</sup> which does not require a drive mechanism  
for moving a reference surface or test object in order to  
tune the interferometer, and which can be tuned in ,  
virtually vibration-free manner, thereby preventing  
measuring errors.

Sub B1  
Measuring errors. The  
For this purpose, the interferometer (10) has at least  
one light source, a reference surface (40), a test object  
(50) and at least one beam splitter (30). For vibration-  
free tuning, the interferometer (10) also contains an  
apparatus (60, 70) for the polarization of the  
interference beams such that, at the output of the  
interferometer (10), they have different polarization  
states relative to each other. <sup>Additionally, an</sup> <sup>is provided</sup> and an analyzer (80),  
disposed at the output of the interferometer (10), with a  
polarization state that is variable in predetermined  
manner, the analyzer (80), as a function of its  
polarization state, introducing a defined Pancharatnam  
phase into the interference beams for tuning the  
interferometer (10).